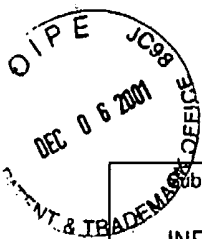


INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)	Substitute for form 1449A-B/PTO		Complete if Known	
	Application Number	09/888,324		
	Filing Date	June 22 2001		
	First Named Inventor	Juha Punnonen		
	Group Art Unit	Unassigned		
	Examiner Name	Unassigned		
	Attorney Docket Number	02-106720US		

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Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
J.O.	AA	5,512,463		Stemmer	04-30-1996	
	AB	5,514,588		Varadaraj	05-07-1996	
	AC	5,605,793		Stemmer	02-25-1997	
	AD	5,763,239		Short et al.	06-09-1998	
	AE	5,789,228		Lam et al.	08-04-1998	
	AF	5,811,238		Stemmer et al.	09-22-1998	
	AG	5,814,473		Warren et al.	09-29-1998	
	AH	5,824,469		Horwitz et al.	10-20-1998	
	AI	5,830,696		Short	11-03-1998	
	AJ	5,830,721		Stemmer et al.	11-03-1998	
	AK	5,834,252		Stemmer et al.	11-10-1998	
	AL	5,837,458		Minushull et al.	11-17-1998	
	AM	5,866,363		Pieczenik	02-02-1999	
	AN	5,876,997		Kretz	03-02-1999	
	AO	5,925,749		Mathur, et al.	07-20-1999	
	AP	5,928,905		Stemmer, et al.	07-27-1999	
	AQ	5,939,250		Short, Jay M.	08-17-1999	
	AR	5,939,300		Robertson, et al.	08-17-1999	
	AS	5,942,430		Robertson, et al.	08-24-1999	
	AT	5,948,666		Callen, et al.	09-07-1999	
	AU	5,958,672		Short, Jay M.	09-28-1999	
	AV	5,958,751		Murphy, et al.	09-28-1999	
	AW	5,962,258		Mathur, et al.	10-05-1999	
	AX	5,962,283		Warren et al.	10-05-1999	
	AY	5,965,408		Short, Jay M.	10-12-1999	
	AZ	5,985,646		Murphy, et al.	11-16-1999	
J.O.	BA	6,001,574		Short et al.	12-14-1999	
Examiner Signature	J.O. Onzpesz			Date Considered	09/17/2004	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Substitute for form 1449A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>	Complete if Known	
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	Filing Date	June 22 2001
	First Named Inventor	Juha Punnonen
	Group Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	02-106720US

I.O.	BB	6,004,788		Short	12-21-1999	
	BC	6,030,779		Short	02-29-2000	
	BD	6,054,267		Short	04-25-2000	
	BE	6,057,103		Short	05-02-2000	
	BF	6,096,548		Stemmer	08-01-2000	
	BG	6,117,679		Stemmer	09-12-2000	
	BH	6,132,970		Stemmer	10-17-2000	
	BI	6,165,793		Stemmer	12-26-2000	
	BJ	6,168,919		Short	01-02-2001	
	BK	6,171,820		Short	01-09-2001	
	BL	6,174,673		Short, et al.	01-16-2001	
	BM	6,180,406		Stemmer	01-30-2001	
	BN	6,238,884		Short et al.	05-29-2001	

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		Office	Number	Kind Code (if known)				
	BO	WO	97/07205		Novo Nordisk A/S	02-27-1997		
	BP	WO	97/20078		Affymax Technologies	06-05-1997		
	BQ	WO	97/25410		Novo Nordisk A/S	07-17-1997		
	BR	WO	97/35957		Maxygen, Inc.	10-02-1997		
	BS	WO	97/35966		Maxygen, Inc.	10-02-1997		
	BT	WO	97/44361		Recombinant Biocatalysis Inc.	11-27-1997		
	BU	WO	97/48416		Recombinant Biocatalysis, Inc.	12-24-1997		
	BV	WO	97/48717		Recombinant Biocatalysis Inc	12-24-1997		
	BW	WO	97/48794		Recombinant Biocatalysis Inc	12-24-1997		
	BX	WO	98/00526		Recombinant	01-08-1998		

Examiner Signature	<i>Ilia Orsperenzi</i>	Date Considered	09/17/2004
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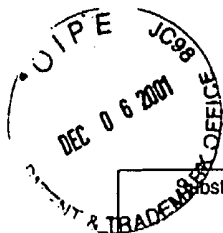


INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)	Complete if Known	
	Application Number	09/888,324
	Filing Date	June 22 2001
	First Named Inventor	Juha Punnonen
	Group Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	02-106720US

					Biocatalysis Inc			
\$0.	BY	WO	98/01581		Recombinant Biocatalysis Inc	01-15-1998		
	BZ	WO	98/13485		Maxygen, Inc.	04-02-1998		
	CA	WO	98/13487		Maxygen, Inc.	04-02-1998		
	CB	WO	98/24799		Diversa Corp.	06-11-1998		
	CC	WO	98/27230		Maxygen, Inc.	06-25-1998		
	CD	WO	98/28416		Novo Nordisk A/S	07-02-1998		
	CE	WO	98/31837		Maxygen, Inc.	07-23-1998		
	CF	WO	98/36080		The Dow Chemical Company	08-20-1998		
	CG	WO	98/41622		Novo Nordisk A/S	09-24-1998		
	CH	WO	98/41623		Novo Nordisk A/S	09-24-1998		
	CI	WO	98/41653		Novo Nordisk A/S	09-24-1998		
	CJ	WO	98/42832		California Institute of Technology	10-01-1998		
	CK	WO	98/48034		Diversa Corp.	10-29-1998		
	CL	WO	98/58085		Diversa Corp.	12-23-1998		
	CM	WO	99/07837		Diversa Corp.	02-19-1999		
	CN	WO	99/08539		Diversa Corp.	02-25-1999		
	CO	WO	99/10472		Diversa Corp.	03-04-1999		
	CP	WO	99/10539		Diversa Corp.	03-04-1999		
	CQ	WO	99/19518		Diversa Corp.	04-22-1999		
	CR	EP	0911396A2		Maxygen, Inc.	04-28-1999		
	CS	WO	99/21979		Maxygen, Inc.	05-06-1999		
	CT	EP	0911396A3		Maxygen, Inc.	05-06-1999		
	CU	WO	99/23107		Maxygen, Inc.	05-14-1999		
	CV	WO	99/23236		Diversa Corp.	05-14-1999		
\$0.	CW	WO	99/29902		California Institute of Technology et al.	06-17-1999		

Examiner Signature	<i>Ilia Ruspenehi</i>	Date Considered	09/17/2004
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	Application Number	09/888,324	
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	First Named Inventor	Juha Punnonen	
	Group Art Unit	Unassigned	
	Examiner Name	Unassigned	
		Attorney Docket Number	02-106720US

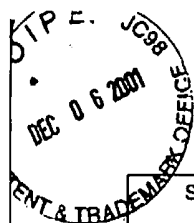
20	CX	EP	0934999A1		Maxygen, Inc.	08-11-1999		
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	DB	WO	99/41402		Maxygen, Inc.	08-19-1999		
	DC	WO	99/45154		Diversa Corp.	09-10-1999		
	DD	WO	99/57128		Maxygen, Inc.	11-11-1999		
	DE	WO	99/65927		Maxygen, Inc.	12-23-1999		
	DF	WO	00/42560		Maxygen, Inc.	07-20-2000		
	DG	WO	00/42561		Maxygen, Inc.	07-20-2000		
	DH	WO	00/53744		Diversa Corporation	09-14-2000		
	DI	WO	00/58517		Diversa Corporation	10-05-2000		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	DJ	Chang, C., et al. (1999) "Evolution of a cytokine using DNA family shuffling." <u>Nature Biotechnology</u> 17:793-797.	
	DK	Christians, F.C. et al., (1999) "Directed evolution of thymidine kinase for AZT phosphorylation using DNA family shuffling." <u>Nature Biotechnology</u> 17:259-264.	
	DL	Coco et al., (2001) "DNA shuffling method for generating highly recombined genes and evolved enzymes" <u>Nature Biotechnology</u> vol. 19 pp. 354-359	
	DM	Crameri et al., (1993) "10(20)-Fold aptamer library amplification without gel purification," <u>Nuc. Acids Res.</u> 21(18):4410.	
	DN	Crameri, A. & Stemmer W.P.C. (1995) "Combinatorial multiple cassette mutagenesis creates all the permutations of mutant and wildtype cassettes." <u>Biotechniques</u> 18:194-195.	
	DO	Crameri, A. et al. (1996) "Improved green fluorescent protein by molecular evolution using DNA shuffling." <u>Nature Biotechnology</u> 14:315-319.	
	DP	Crameri, A. et al. (1996) "Construction and evolution of antibody-phage libraries by DNA shuffling." <u>Nature Medicine</u> 2:100-103.	
\$D.	DQ	Crameri, A. et al., (1997) "Molecular evolution of an arsenate detoxification pathway by DNA shuffling." <u>Nature Biotechnology</u> 15:436-438	

Examiner Signature	<i>Ilia Ouspensh</i>	Date Considered	09/17/2004
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	Application Number	09/888,324
	Filing Date	June 22 2001
	First Named Inventor	Juha Punnonen
	Group Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	02-106720US

IO.	DR	Cramer, A. et al., (1998) "DNA shuffling of a family of genes from diverse species accelerates directed evolution." <u>Nature</u> 391:288-291.	
	DS	Gates, C.M. et al., (1996) "Affinity selective isolation of ligands from peptide libraries through display on a lac repressor 'headpiece dimer'." <u>Journal of Molecular Biology</u> 255:373-386.	
	DT	Minshull, J., Stemmer, W.P.C. (1999) "Protein evolution by molecular breeding." <u>Current Opinion in Chemical Biology</u> 3:284-290.	
	DU	Ness, J. et al., (1999) "DNA shuffling of subgenomic sequences of subtilisin." <u>Nature Biotechnology</u> 17:893-896.	
	DV	Patten, P.A. et al., (1997) "Application of DNA Shuffling to Pharmaceuticals and Vaccines." <u>Current Opinion in Biotechnology</u> 8:724-733.	
	DW	Pelletier, Joelle N., (2001) "A Rachitt for our toolbox" <u>Nature Biotechnology</u> vol. 19, p. 314-315	
	DX	Stemmer, W.P.C. (1994) "DNA Shuffling by random fragmentation and reassembly: In vitro recombination for molecular evolution." <u>PNAS</u> 91:10751	
	DY	Stemmer, W.P.C. (1994) "Rapid evolution of a protein in vitro by DNA shuffling." <u>Nature</u> 370:389-391.	
	DZ	Stemmer, W.P.C. (1995) "The Evolution of Molecular Computation." <u>Science</u> 270:1510	
	EA	Stemmer, W.P.C. (1995) "Searching Sequence Space." <u>Bio/Technology</u> 13:549-553.	
	EB	Stemmer, W.P.C. (1996) "Sexual PCR and Assembly PCR." In: <u>The Encyclopedia of Molecular Biology</u> . VCH Publishers, New York. pp. 447-457.	
	EC	Stemmer, W.P.C. & Soong, N.W. (1999) "Molecular breeding of viruses for targeting and other clinical properties." <u>Tumor Targeting</u> 4:59-62.	
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Examiner Signature	<i>Ilia Anspach</i>	Date Considered	09/17/2004
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	Application Number	09/888,324
	Filing Date	June 22, 2001
	First Named Inventor	Juha Punnonen, et al.
	Group Art Unit	1634
Examiner Name	Jeffrey Norman Fredman	
Attorney Docket Number	0169.310US	

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code (if known)			
D.O.	1	5,718,883		Harlan et al.	02-17-1998	
	2	5,738,852		Robinson et al.	04-14-1998	
	3	5,858,776		Ostrand-Rosenberg et al.	01-12-1999	
	4	5,861,310		Freeman et al.	01-19-1999	
	5	6,045,802		Schlom et al.	04-04-2000	
	6	6,071,716		Freeman et al.	06-06-2000	
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	8	6,149,905		Ostrand-Rosenberg et al.	11-21-2000	

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Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
	9	WO	94/24267		Robinson, William S.	10-27-1994		
	10	WO	95/23859		Brigham & Women's Hospital; Dana-Farber Cancer Institute	09-08-1995		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s).	T
	11	Freeman, G.J. et al., "Cloning of B7-2: A CTLA-4 Counter-Receptor That Costimulates Human T Cell Proliferation," Science 262:909-911 (1993)	
	12	He, X-S. et al., "Costimulatory protein B7-1 enhances the cytotoxic T cell response and antibody response to hepatitis B surface antigen," Proc. Natl. Acad. Sci. USA 93:7274-7278 (1996)	
	13	Kim, J.J. et al., "Engineering DNA Vaccines via Co-delivery of Co-Stimulatory Molecule Genes," Vaccine 16(19):1828-1835 (1998)	
	14	Kuchroo, V.K. et al., "B7-1 and B7-2 Costimulatory Molecules Activate Differentially the Th1/Th2 Developmental Pathways: Application to Autoimmune Disease Therapy," Cell 80:707-718 (1995)	
	15	Metzler, W., et al., "Solution Structure of Human CTLA-4 and Delineation of a CD80/CD86 Binding Site Conserved in CD28," Nature Structural Biology 4(7):527-531 (July 1997)	
	16	Parsons, K.R., et al., "Cloning of Cattle CD80," Immunogenetics 49(3):231-234 (1999)	
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Examiner Signature	<i>John A. Oesperlein</i>	Date Considered	09/17/2004
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT MAR 28 2003 (use as many sheets as necessary)	Substitute for form 1449A-B/PTO		Complete if Known	
	Application Number		09/888,324	
	Filing Date		June 22, 2001	
	First Named Inventor		Juha Punn n n, t al.	
	Group Art Unit		1643	
	Examiner Name		John Brusca	
Attorney Docket Number		0169.310US		

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appear
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		Office	Number	Kind Code (if known)				
\$O.	1	WO	99/57271		Texas A & M System	11-11-1999		
\$O.	2	WO	99/43839		Trustees of University of Pennsylvania	09-02-1999		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS					
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	3	PARSONS, K.R., et al., Immunogenetics (1999) 49:231-234			
\$O.	4	PEACH, R.J., et al., Journal of Biological Chemistry (1995) 270(36):21181-21187			
\$O.	5	FARGEAS, C.A., et al., Journal of Experimental Medicine (1995) 182(3):667-675			
\$O.	6	FAAS, S.J., et al., Journal of Immunology (2000) 164(12):6340-6348			
	7	CHANG, C-G J., et al., Nature Biotechnology (1999) 17(8):793-797			
	8	CRAMER, A., et al., Nature (1998) 391:288-291			
\$O.	9	GUO, Y., et al., Journal of Experimental Medicine (1995) 181(4):1345-1355			
	10	STEMMER, W.P.C., Nature (1994) 370:389-391			
\$O.	11	LAZETIC, S., et al., Journal of Biological Chemistry (2002) 277(41):38660-38668			

Examiner Signature	<i>John Brusca</i>	Date Considered	09/17/2004
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